



Wastewater



**Preliminary
Engineering Report
Brush Creek Pump
Station Improvements**

March 2, 2026

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1 General

Notes:

1. ***This Preliminary Engineering Report (PER) was originally completed in August of 2022. The report was updated in 2026 to incorporate the current wet weather forcemain plan, project cost estimate, and schedule.***
2. ***This PER has been utilized by JCW to establish an estimated project cost, schedule, and easement acquisition needs. Final Design of the material presented in this planning document will ultimately be the responsibility of the selected design engineer, in coordination with JCW.***

1.1 Background

In 2019, the HDR/Jacobs/WCS Team completed the Nelson Complex WWTF and Collection Facility Plan. This document presented an optimized strategy for addressing the various challenges faced by the collection and treatment facilities serving the Nelson Watershed, including aging assets, wet weather capacity, and increasingly stringent water quality requirements. A central focus of this optimization effort was to identify a phased plan to eliminate the four Peak Excess Flow Treatment Facilities (PEFTF's) which currently function as part of the Nelson collection system wet weather operation. The four PEFTF's, Turkey Creek, Martway, 75th and Nall, and Belinder, provide primary treatment and disinfection prior to direct discharge for wet weather flows that exceed the hydraulic capacity of the conveyance of the system.

The 75th and Nall PEFTF lies upstream of the Brush Creek Pump Station. Elimination of the PEFTF will require upgrade of the interceptor from the PEFTF to the Pump Station, the Pump Station itself, and the downstream facilities from the Pump Station to and including the Nelson Wastewater Treatment Facility (WWTF).

1.2 Purpose

The purpose of this Preliminary Engineering Report (PER) is to document the planning effort for the Brush Creek Pump Station upgrade, and to provide an overview of its impact on downstream facilities, i.e., the Brush Creek forcemain system, the Rock Creek Pump Station, the Rock Creek forcemain system, and the WWTF.

With respect to the Brush Creek Pump Station, this PER will include the following:

- Pump station location, design flowrate, and preliminary hydraulics
- Pump station layout/configuration
- Site impact and associated property/easement acquisition needs
- Forcemain sizing and alignment
- Cost estimate for purposes of capital improvements budgeting, cash flow, and rate projections

Confirmation during Final Design of the material presented in this planning document will ultimately be the responsibility of the engineering firm selected to perform the Final Design.

2 Existing Collection Facilities and Flowrates

Figure 2.1 illustrates the collection system upstream of the Brush Creek Pump Station, including the 75th and Nall PEFTF, as it exists today.

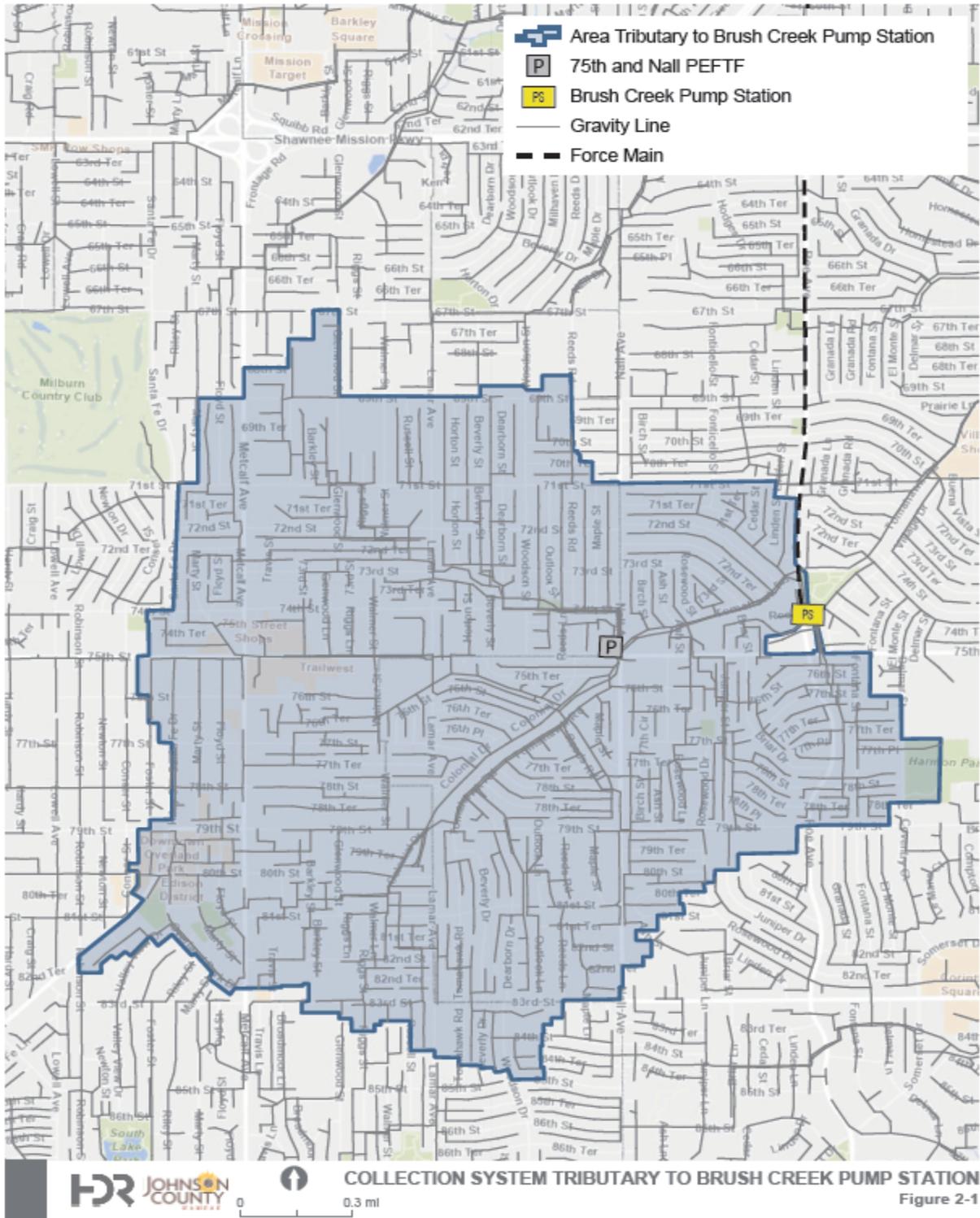


Figure 2-1. Collection System Tributary to Brush Creek Pump Station

Figure 2.2 illustrates the future condition when the PEFTF has been removed and the interceptor system has been upgraded to handle the increased flow.

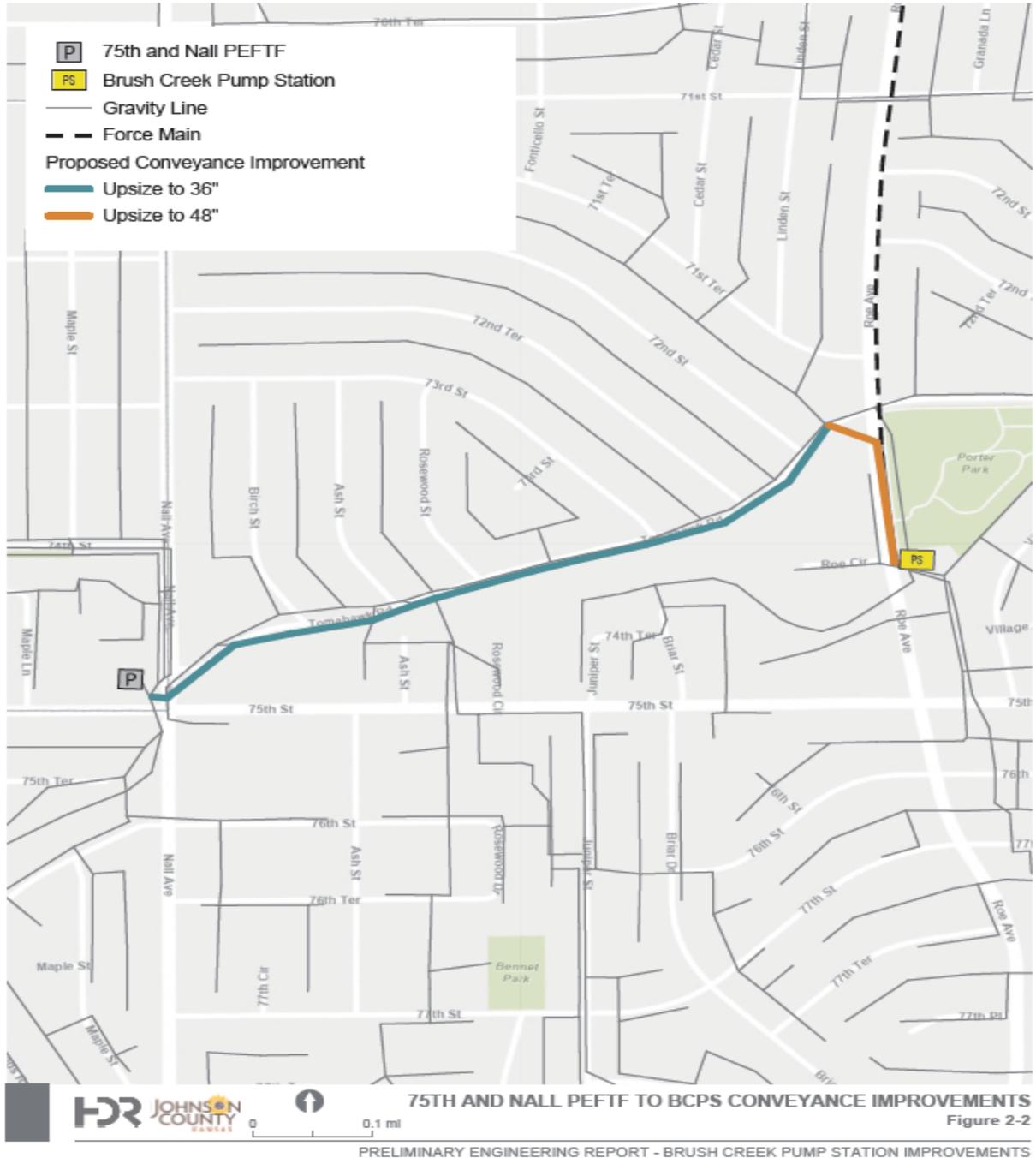


Figure 2-2. 75th & Nail PEFTF to Brush Creek Pump Station Conveyance Improvements

Table 2.1 presents flow rates at the pump station for current and future conditions:

Table 2-1 Brush Creek Pump Station – Current and Future Flows (mgd)

	Current ⁽¹⁾	Future ⁽²⁾
Average Day	1.8	1.8
Hydraulic Peak	5.5	20.0

- (1) The station is anticipated to continue to pump at current conditions flows until the 75th and Nall PEFTF is eliminated in the early 2040s.
- (2) The peak future conditions flow is based on projections of cost effective I/I removal, to be verified/updated during final design of the improvements to eliminate the 75th and Nall PEFTF.

3 Facility Sizing and Configuration

Figure 3.1 shows the existing Brush Creek Pump Station site. Figure 3.2 shows a floorplan of the existing station. The following observations are noted:

- The wet well/drywell does not have enough room to accommodate the required capacity expansion.
- The electric room and electric equipment are not compliant with current space classification codes.
- The influent screening arrangement is ineffective and very cumbersome.
- The facility is nearing the end of its useful life with major rehabilitation, required to maintain serviceability.



Figure 3-1. Existing Brush Creek Pump Station Site

Due to these considerations, a decision has been made to replace the existing facility in its entirety. The new station would have influent screening, dry weather and wet weather wet wells with submersible pumps, a separate electrical room, and odor control.

Figure 3.3 depicts the proposed site plan and floor plan. The decommissioning of the 75th and Nall PEFTF, and hence the need for wet weather capacity is currently scheduled for approximately 2040. However, the deficiencies outlined above necessitate that the existing facility be replaced sooner than that, likely in the 5–7-year window. To address this scheduling issue, the plan will be to construct the new facility initially with the complete structure but only sufficient pumping capacity to handle current flow, and add the pumps to handle the future flow at a later date in conjunction with the PEFTF abandonment (i.e., the Phase 2 project).

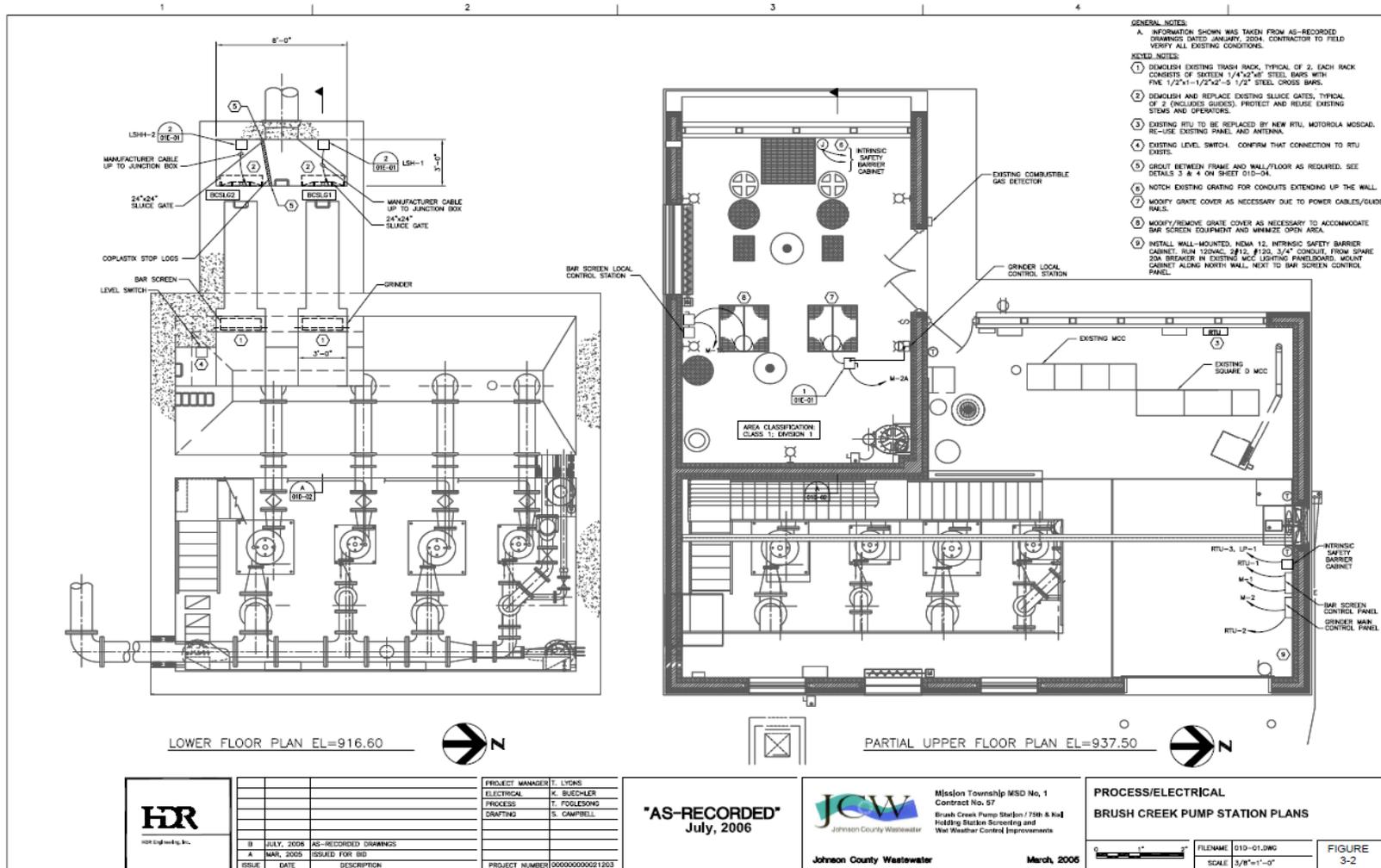


Figure 3-2. Existing Brush Creek Pump Station Floorplan

Preliminary Engineering Report Brush Creek Pump Station Improvements

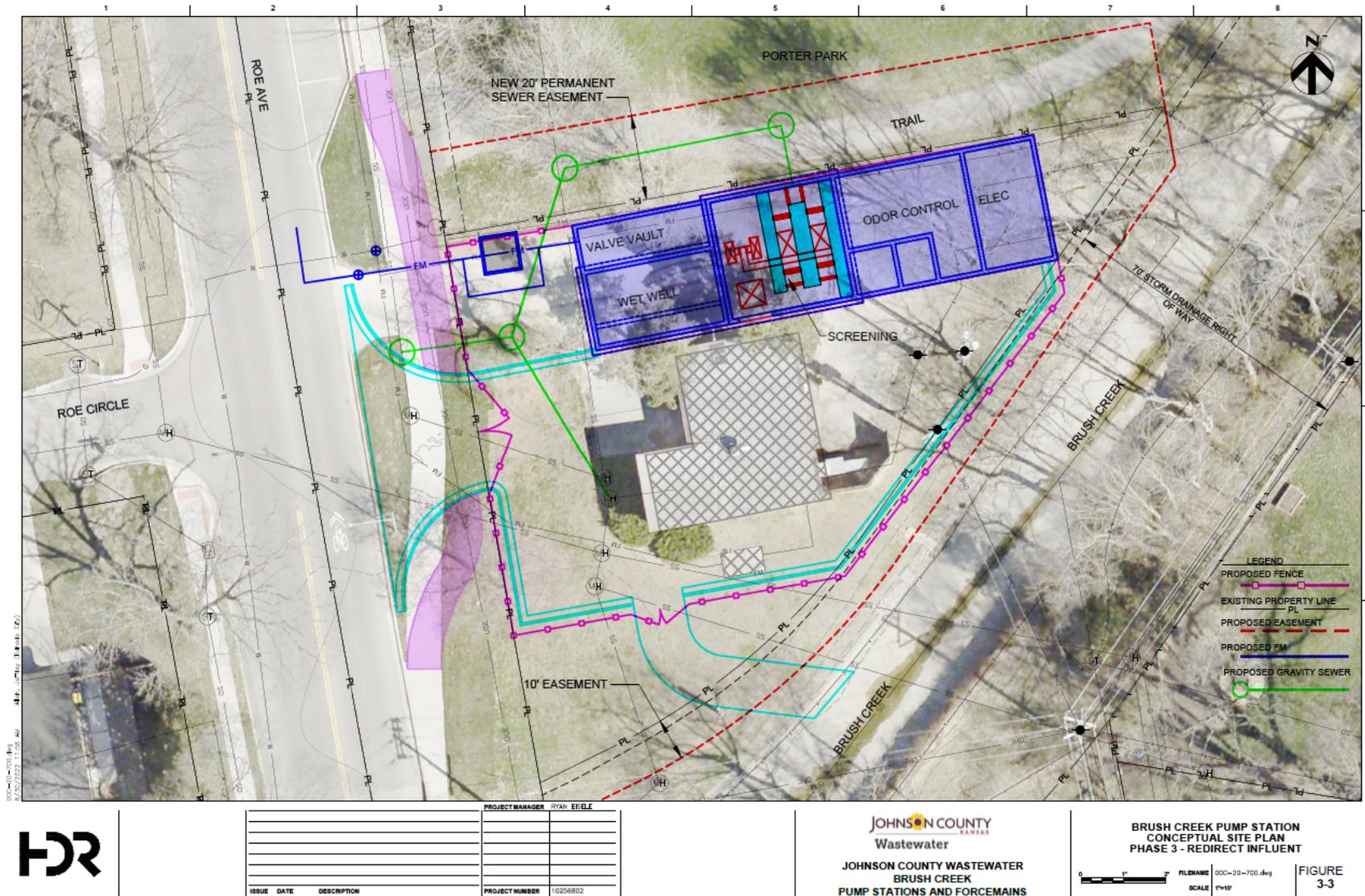


Figure 3-3. Proposed Site and Floor Plan

The following further describes the proposed improvements:

Site – the new facilities will be constructed immediately north of the existing building. Excavating in such close proximity is feasible in that the deep portion of the existing facility bear on rock and the shallow portions are supported by piers. An easement for the proposed influent sewer is shown on Figure 3-3, as well as easement overlapping a portion of the City’s storm drainage easement to the southeast. The extents of these easements can be further evaluated during Final Design. The new facility will block the ramp the City uses to access the concrete-lined drainage for maintenance, so a new ramp will need to be provided. The new ramp will extend into the 100-year floodplain, so a “no-rise” analysis will be required. Once the new facility is constructed the old facility will be demolished and the area paved to serve as parking and maintenance access. It is likely that a significant portion of the ball field will be needed for temporary construction easement, and the field will need to be restored after construction is complete.

Capacity* - Capacity and head conditions for initial and future operating conditions are summarized below.

- Future conditions - The wet well and valve vault will be sized to accommodate future conditions – assumed to include 5 – 5 mgd pumps, 4 firm to provide the future 20 mgd capacity in conjunction with increased forcemain capacity. With a Total Dynamic Head (TDH), of 117 feet, these pumps are assumed to have 150 horsepower motors powered by variable frequency drives (VFD’s) to allow for turndown to match diurnal flows.
- Initial conditions will maintain the current operating conditions – a peak flow capacity of 5.5 mgd through the existing forcemain. This condition will have a TDH of approximately 180 feet. Due to the head selection, the pump selection for initial conditions will likely be different than future conditions. Initially, 3 – 2.75 mgd pumps, 2 firm are assumed to be installed. An alternative to investigate during final design would be to install 2 – 5.5. mgd pumps, 1 firm, initially, or other pumping configurations to optimize construction of the station to meet initial and future operating conditions.

*The new pump station will need to be operated to maintain the current pumping capacity of 5.5 mgd for approximately 15 years.

Elevations – the following are key design elevations:

Top of concrete	= 938.0
100 Year Flood	= 936.0 +/-
Ground Elev	= 937.0
Invert of Influent Sewer	= 923.0
Floor of Wetwell	= 916.0
Rock*	= 916.0

*Based on borings from prior contracts.

Screening and Material Handling – for the purposes of PER, it was assumed that screening would be continued. The facility layout was configured for two redundant 20 mgd mechanical bar screens. The screen(s) would discharge to a sluice which would convey the screenings to redundant washer compactors, which would discharge to a dumpster. During final design, for the initial conditions, a decision can be made as to whether to install both or to install one with a backup manual screen. The Engineer should also work with JCW to determine if screening is necessary at the facility.

Odor Control – the facility is sized to accommodate both vapor phase – i.e., carbon scrubber – and liquid i.e. – Bioxide – odor control. A possible alternative approach would be to continue feeding Bioxide at 75th and Nall while the PEFTF is still in operation, and even after it is decommissioned, with a corresponding reduction in building size at Brush Creek by eliminating the space for the storage tank and metering pump.

Electrical – a separate climate-controlled electrical and control room would be provided. The facility currently is served by redundant electrical feeds, and this arrangement should continue to support the initial dry weather upgrades. When the wet weather pumps are added, it will need to be determined whether this arrangement will continue or whether a standby generator will be required. The station will continue to operate in conjunction with the 75th and Nall PEFTF via SCADA communication.

Aesthetics – the facility appearance will need to be compatible with the park facilities as well as surrounding residences, both in terms of building materials and vegetation/screening.

4 Downstream Facilities

4.1 Brush Creek Forcemain

The Brush Creek Pump Station currently pumps through a 16-inch diameter cast iron forcemain that discharges to the Rock Creek Pump Station. The new pump station will be in service utilizing this forcemain, at a capacity of 5.5 mgd for approximately 15 years. Portions of the forcemain are CIPP lined. The forcemain breaks to gravity before it reaches the Rock Creek Pump Station (see Figure 4-2). The gravity section of pipe was replaced in an emergency repair project in 2024.

At such time as the 75th and Nall PEFTF is abandoned and the Brush Creek capacity increased to 20 mgd, forcemain capacity will need to be increased. It is planned to construct two parallel, 24-inch forcemains at that time, and abandon the existing forcemain.

A proposed alignment for the future forcemain is shown in Figure 4-1. Hydraulic grade lines for both the future conditions (with a dual forcemain system) and initial conditions (with the existing forcemain) is shown in Figure 4-2.

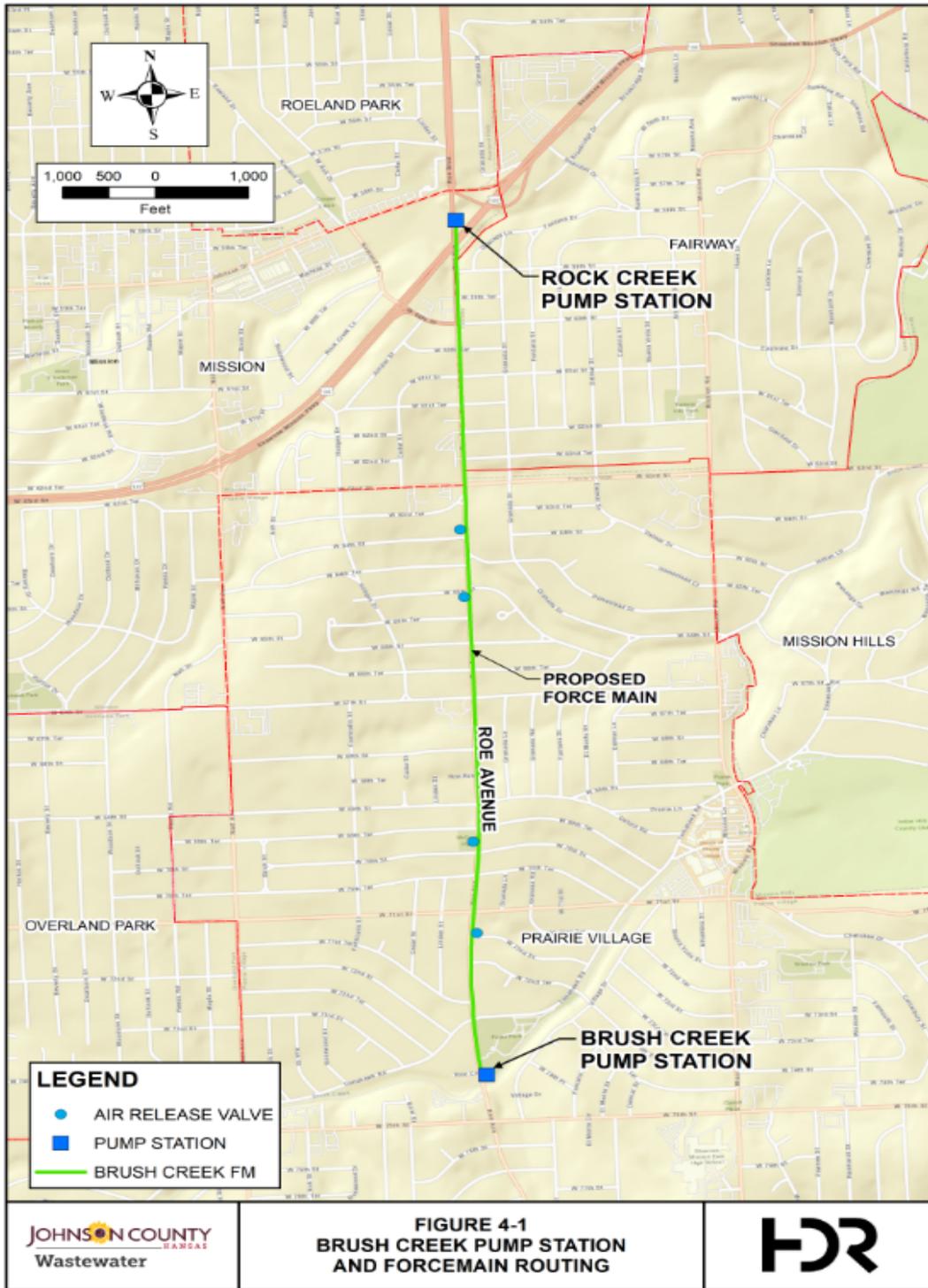
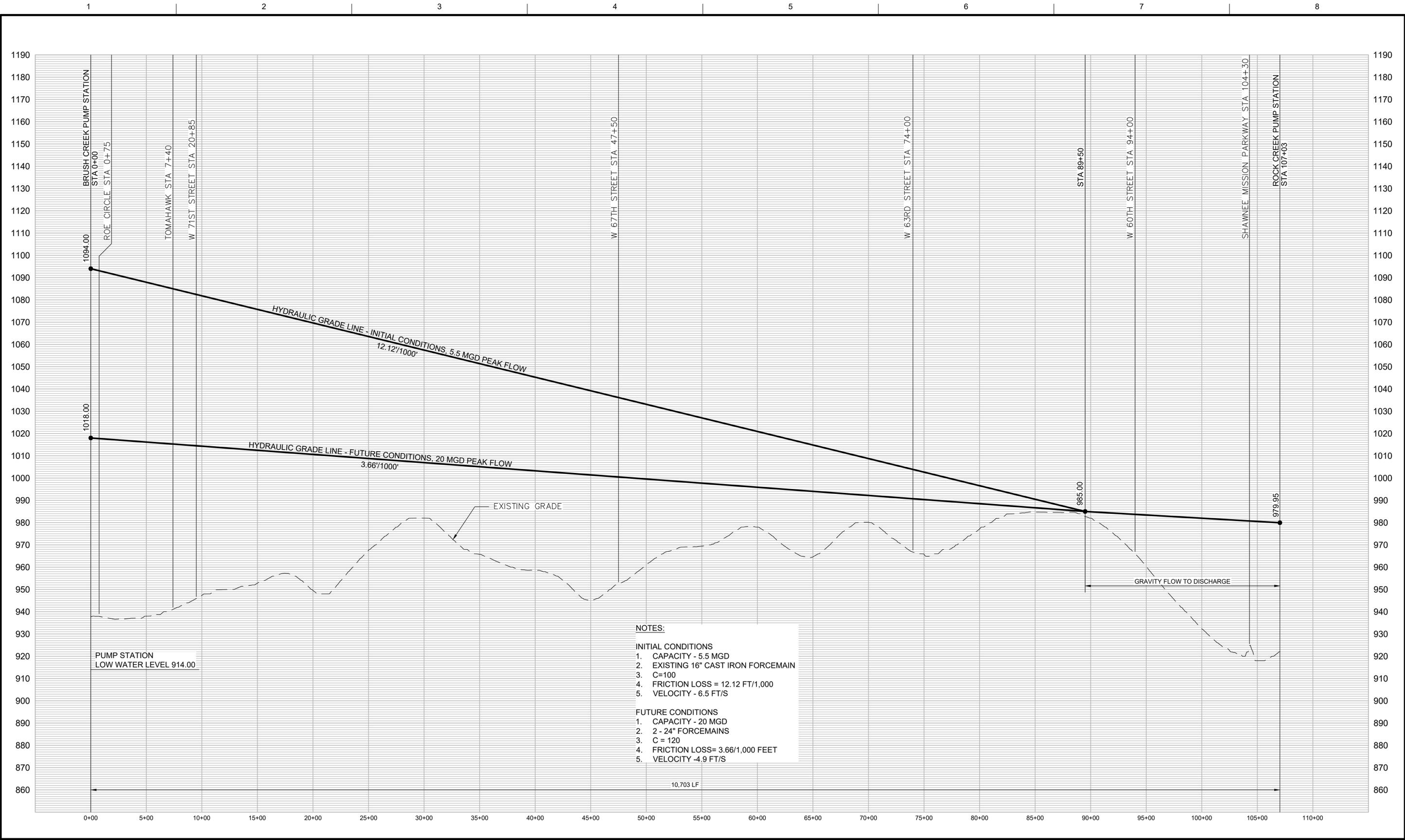


Figure 4-1. Proposed Wet Weather Forcemain Alignment

10C702A.dwg
3/2/2026 2:15 PM
Keyhill_Pet



NOTES:

INITIAL CONDITIONS

1. CAPACITY - 5.5 MGD
2. EXISTING 16" CAST IRON FORCEMAIN
3. C=100
4. FRICTION LOSS = 12.12 FT/1,000
5. VELOCITY - 6.5 FT/S

FUTURE CONDITIONS

1. CAPACITY - 20 MGD
2. 2 - 24" FORCEMAINS
3. C = 120
4. FRICTION LOSS= 3.66/1,000 FEET
5. VELOCITY -4.9 FT/S



ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	RYAN EISELE
PROJECT NUMBER	10256802

JOHNSON COUNTY
Wastewater
JOHNSON COUNTY WASTEWATER
BRUSH CREEK
PUMP STATION AND FORCEMAINS

BRUSH CREEK PUMP STATION
INITIAL AND FUTURE CONDITIONS
HYDRAULIC PROFILE

0 1" 2"
SCALE 1"=400'

FILENAME 10C702A.dwg
SCALE 1"=400'

FIGURE
4-2

4.2 Rock Creek Pump Station to Nelson WWTF

Rock Creek Pump Station will receive and pump the flows on to the WWTF. The Rock Creek Pump Station will be replaced in the future with a larger facility with increased capacity to handle the additional flow from Brush Creek, as well as increased flows it will receive via a separate gravity line when the Martway PEFTF is decommissioned. Additional forcemain capacity will also be constructed from Rock Creek Pump Station to the Nelson WWTF to convey the increased flows to the auxiliary treatment and disinfection facilities at the WWTF.

It is planned to eliminate both the Martway and 75th and Nall PEFTFs at approximately the same time, during the Years 2040 – 2045 window.

5 Permitting

5.1 Environmental

The area to be impacted by the project beyond the existing pump station site is currently a City park and was previously an elementary school. The likelihood of any sensitive environmental features is low. However, it may be prudent to obtain input/clearances from the usual State and Federal agencies: Kansas Department of Agriculture – Division of Water Resources, US Fish and Wildlife Service, State Historic Preservation Office, U.S. Army Corps of Engineers, and Kansas Department of Wildlife, Parks, and Tourism, as well as performing a Phase 1 Environmental Site Assessment. A KDHE Site Disturbance Permit may also be required, depending on the extent of the disturbed area.

5.2 City of Prairie Village

Close coordination with the City's community development, public works, and parks staff, as well as an enhanced community outreach effort, will be warranted due to the sensitive nature of the project location.

6 Project Cost, Schedule, and Implementation

6.1 Opinion of Probable Cost

An estimate of total project cost is presented in summary form in Table 6.1. A detailed breakdown is included in Appendix A.

Table 6-1 Brush Creek Pump Station – Project Estimate Summary

Item No.	Description	Markup	Construction Subtotal (Baseline \$2026)	Construction Subtotal (w/ Escalation)
1.	Pump Station		\$5,400,000	\$5,957,000
1.	Construction Facility Subtotal (Rounded)		\$5,400,000	\$5,957,000
2.	Mobilization and Demobilization	3.0%	\$162,000	\$178,710
3.	Contractor Home Office Overhead	3.0%	\$162,000	\$178,710
4.	General Conditions (Field Overhead)	10.0%	\$540,000	\$595,700
5.	Contractor's Fee (Profit)	5.0%	\$270,000	\$297,850
6.	Construction Subtotal including contractor overhead &		\$6,534,000	\$7,207,970
7.	Design Contingency	30.0%	\$1,960,200	\$2,162,391
8.	Contractors Bond and Insurance	2.5%	\$212,355	\$234,259
9.	OPCC - including Design Contingency, and contractor's		\$8,706,555	\$9,604,620
10.	Construction Phase Services (CPS) - Engineering	10.0%	\$870,656	\$960,463
11.	Subtotal OPCC plus CPS		\$9,577,211	\$10,565,083
12.	CPS - Engineering Contingency	10.0%	\$87,066	\$96,046
13.	JCW Construction Contingency	5%	\$478,861	\$528,254
14.	OPCC plus CPS and Contingency		\$10,143,137	\$11,189,383
15.	PAF - Construction	1.75%	\$177,505	\$195,814
16.	Total Construction Cost, including OPCC, CPS, JCW		\$10,320,642	\$11,385,198
17.	Planning - Professional Engineering Services	3%	\$262,000	\$289,000
18.	Design - Professional Services - Engineering	12.0%	\$1,045,000	\$1,153,000
19.	Subtotal - Professional Engineering Services		\$1,307,000	\$1,442,000
20.	Planning and Design Services Contingency	10.0%	\$130,700	\$144,200
21.	ROW/Utility/Easements - Easement	\$100,000	\$100,000	\$110,313
22.	Subtotal - Planning and Design Engineering Services		\$1,537,700	\$1,696,513
23.	PAF - Non-Construction Items	1.75%	\$26,910	\$29,689
24.	Total ROW, Planning and Design - Engineering Services,		\$1,564,610	\$1,726,202
25.	TOTAL PROJECT COSTS		\$11,886,000	\$13,112,000

6.2 Schedule and Implementation

The primary driver for the initial project to replace the existing facility is to maintain reliability/functionality at the current 5.5 mgd capacity. JCW currently working with the City of Prairie Village to formalize arrangements with the City for the permanent and temporary easements on park property necessary for the project.

JCW plans to procure this project through collaborative delivery. Tentatively, JCW is planning to procure a design-build team to construct the project utilizing the Progressive-Design-Build (PDB) process, pending board of county commissioners approval of the approach. The Request for Qualifications (RFQ) for this procurement is tentatively scheduled for the fall of 2026. Design is planned for 2027 - 2028, with construction scheduled for 2029 - 2030.

Appendix A. Detailed Cost Estimate

PROJECT INFORMATION:

Project Name:	JCW Integrated Plan Refinement
Project Location:	Brush Creek Pump Station Replacement
Contract Number:	100000247
Design Phase:	Project Concept
Estimate Date:	2-Mar-26
Prepared By:	Wiseman/Hardee/McCann
Company Name:	HDR
Estimator Phone Number:	(816) 347-1171
Estimator E-mail:	Michael.Kalis@hdrinc.com
Reviewed By:	Kalis
Review Date:	2-Mar-26

PROJECT SCOPE OF WORK (Supporting Materials):

Enter description of scope of work here.

SOURCE OF COST DATA:

Costs escalated to \$2026 on 2/26/2026

Major Assumptions:

Enter Major Assumptions here.

Excluded Costs:

Enter Excluded Costs here.

Major Change From Previous Estimate:

Enter Major Change(s) from Previous Estimate here.

Design Contingency: (See Cost Estimating Guidelines, Table 14-3)

Design Contingency	30.0%
--------------------	-------

Contractor Markups: (See Cost Estimating Guidelines Section 14.10)

Mobilization and Demobilization	3.0%
Contractor Home Office Overhead	3.0%
General Conditions (Field Overhead)	10.0%
Contractor's Fee (Profit)	5.0%
Contractors Bond and Insurance	2.5%

Non-Construction/Other Factors: (Inputs by Consultant see Guidelines Section 14.11)

Category	Factor (%)	or, Actual Cost (\$)
Study/Planning - Professional Engineering Services	3.0%	
Design - Professional Services Engineering	12.0%	
Construction Phase Services (CPS) - Engineering	10.0%	
ROW/Utility/Easements - Easement	N/A	\$ 100,000

Contingencies and Factors (JCW Use Only - See Guidelines Sections 14.12, 14.14 and 14.15)

PAF - PAF	1.75%	
JCW Study/Planning and Design Engineering Contingency	10.0%	
CPS - Engineering Contingency	10.0%	
JCW Large Project Threshold (based on Subtotal OPCC plus CPS)	\$50,000,000	(For JCW use only)
JCW Construction Contingency (Size-Dependent)		
Small Project (<\$1M)	10.0%	
Medium Project (>=\$1M and <\$50M)	5.0%	
Large Project (>=\$50M)	2.0%	

Escalation Adjustment Calculation

Escalation Rate Per Year (%):	3.00%
-------------------------------	-------

Description	Date/Duration	Duration	Duration Units	Note
Target NTP for Design:	1/1/2027	---	---	If design is in progress or completed, use today's date and adjust input cells as necessary.
Design Period:	3/26/2028	15	Months	Duration in months (or remaining design time duration)
Bid and Award:	9/22/2028	6	Months	
NTP:	9/29/2028	7	Days	Duration (days) for NTP (7 days as default)
Construction Duration (calendar day)	540 days	18	Months	
Completion Date:	3/23/2030	---	---	NTP Date + Construction Duration
Mid-Point Construction:	6/26/2029	---	---	NTP Date + (Construction Duration / 2)
No. of Days to Mid-Point:	1212 days	---	---	Calculated as (Mid-Point Construction Date - Estimate Date)
No. of Years to Mid-Point:	3.32 yrs	---	---	Number of years to escalate @3.00%

Escalation Factor:	1.1031
Escalation Percentage:	10.31%

Project Estimate Summary

Project Name: JCW Integrated Plan Refinement
 Project Location: Brush Creek Pump Station Replacement
 Contract Number: 10000247
 Design Phase: Project Concept
 Estimated by: Wiseman/Hardee/McCann
 Estimate Date: 02-Mar-26

Item No.	Facility Description		Construction Subtotal (Baseline \$2026)	Construction Subtotal (w/ Escalation)
1.	Pump Station		\$ 5,400,000	\$ 5,957,000
1.	Construction Facility Subtotal (Rounded)		\$ 5,400,000	\$ 5,957,000
2.	Mobilization and Demobilization	3.0%	\$ 162,000	\$ 178,710
3.	Contractor Home Office Overhead	3.0%	\$ 162,000	\$ 178,710
4.	General Conditions (Field Overhead)	10.0%	\$ 540,000	\$ 595,700
5.	Contractor's Fee (Profit)	5.0%	\$ 270,000	\$ 297,850
6.	Construction Subtotal including contractor overhead & profit		\$ 6,534,000	\$ 7,207,970
7.	Design Contingency	30.0%	\$ 1,960,200	\$ 2,162,391
8.	Contractors Bond and Insurance	2.5%	\$ 212,355	\$ 234,259
9.	OPCC - including Design Contingency, and contractor's bond/insurance		\$ 8,706,555	\$ 9,604,620
10.	Construction Phase Services (CPS) - Engineering	10.0%	\$ 870,656	\$ 960,463
11.	Subtotal OPCC plus CPS		\$ 9,577,211	\$ 10,565,083
12.	CPS - Engineering Contingency	10.0%	\$ 87,066	\$ 96,046
13.	JCW Construction Contingency	5%	\$ 478,861	\$ 528,254
14.	OPCC plus CPS and Contingency		\$ 10,143,137	\$ 11,189,383
15.	PAF - Construction	1.75%	\$ 177,505	\$ 195,814
16.	Total Construction Cost, including OPCC, CPS, JCW Construction Contingency, and PAF		\$ 10,320,642	\$ 11,385,198
17.	Planning - Professional Engineering Services	3%	\$ 262,000	\$ 289,000
18.	Design - Professional Services - Engineering	12.0%	\$ 1,045,000	\$ 1,153,000
19.	Subtotal - Professional Engineering Services		\$ 1,307,000	\$ 1,442,000
20.	Planning and Design Services Contingency	10.0%	\$ 130,700	\$ 144,200
21.	ROW/Utility/Easements - Easement	\$100,000	\$ 100,000	\$ 110,313
22.	Subtotal - Planning and Design Engineering Services including contingencies		\$ 1,537,700	\$ 1,696,513
23.	PAF - Non-Construction Items	1.75%	\$ 26,910	\$ 29,689
24.	Total ROW, Planning and Design - Engineering Services, Contingencies and PAF		\$ 1,564,610	\$ 1,726,202
25.	TOTAL PROJECT COSTS		\$ 11,885,252	\$ 13,111,400

Pump Station

Project Name: JCW Integrated Plan Refinement
 Project Location: Brush Creek Pump Station Replacement
 eBuilder Project ID: 100000247
 Design Phase: Project Concept
 Estimated by: Wiseman/Hardee/McCann
 Estimate Date: 02-Mar-26

Item	Description	Quantity	Unit of Measure	Installed Unit Rate (2026)	Total Construction Amount
Division 02 - Demolition of Existing Facilities					
1.	Demolish 3 ft Below Existing Grade and Fill	1	LS	118583	\$ 119,000
2.	Subtotal Division - Demolition of Existing Facilities				\$ 119,000
Division 03 - Concrete					
1.	Wet Well				\$ -
2.	Top Slab	21	CY	1319	\$ 29,000
3.	Bottom Slab	70	CY	903	\$ 64,000
4.	Walls	83	CY	1062	\$ 89,000
5.	Valve Vault				\$ -
6.	Top Slab	14	CY	1319	\$ 19,000
7.	Bottom Slab	14	CY	903	\$ 13,000
8.	Walls	22	CY	1062	\$ 24,000
9.	Screening Room				\$ -
10.	Top Slab	22	CY	1319	\$ 30,000
11.	Bottom Slab	43	CY	903	\$ 39,000
12.	Hollow Core	812	CY	36	\$ 30,000
13.	2" Topping	5	CY	859	\$ 5,000
14.	Walls	148	CY	1062	\$ 157,000
15.	Concrete Piers	3	CY	1543	\$ 5,000
16.	Odor Control				\$ -
17.	Base Slab	34	CY	903	\$ 31,000
18.	Footing	13	CY	903	\$ 13,000
19.	Hollow Core	220	SF	36	\$ 8,000
20.	2" Topping	1	CY	859	\$ 2,000
21.	Electrical Room				\$ -
22.	Base Slab	20	CY	903	\$ 19,000
23.	Footing	10	CY	903	\$ 10,000
24.	8" Hollow Core	540	SF	36	\$ 20,000
25.	2" Topping	3	CY	859	\$ 3,000
26.	Subtotal Division - Concrete				\$ 610,000
Division 04 - Masonry					
1.	Screening Room				\$ -
2.	12" CMU - Structural Wythe	2360	SF	36	\$ 86,000
3.	4" Brick Veneer	2440	SF	28	\$ 70,000
4.	Odor Control				\$ -
5.	12" CMU - Structural Wythe	1560	SF	36	\$ 57,000
6.	4" Brick Veneer	1212	SF	28	\$ 35,000
7.	Electrical Room				\$ -
8.	12" CMU - Structural Wythe	1104	SF	36	\$ 40,000
9.	4" Brick Veneer	1152	SF	28	\$ 33,000
10.	Subtotal Division - Masonry				\$ 321,000

Pump Station

Project Name: JCW Integrated Plan Refinement
 Project Location: Brush Creek Pump Station Replacement
 eBuilder Project ID: 100000247
 Design Phase: Project Concept
 Estimated by: Wiseman/Hardee/McCann
 Estimate Date: 02-Mar-26

Item	Description	Quantity	Unit of Measure	Installed Unit Rate (2026)	Total Construction Amount
Division 05 - Metals					
1.	Screening Room				\$ -
2.	Aluminum Bar Grating 1 1/2"	4	SF	71	\$ 1,000
3.	Subtotal Division - Metals				\$ 1,000
Division 07 - Thermal and Moisture Protection					
1.	Screening Room				\$ -
2.	Roofing	961	SF	39	\$ 38,000
3.	Odor Control				\$ -
4.	Roofing	1	SF	39	\$ 1,000
5.	Electrical Room				\$ -
6.	Roofing	20	SF	39	\$ 1,000
7.	Subtotal Division - Thermal and Moisture Protection				\$ 40,000
Division 08 - Openings					
1.	Double Door	1	EA	9354	\$ 10,000
2.	Man Door	5	EA	4677	\$ 24,000
3.	Coiling Overhead doors	1	EA	10523	\$ 11,000
4.	Subtotal Division - Openings				\$ 45,000
Division 26 - Facility and Process Electrical					
1.	Electrical Allowance	1	LS	400000	\$ 400,000
2.	VFD	2	EA	40000	\$ 80,000
3.	Low Voltage Panel and Transformer	1	LS	20000	\$ 20,000
4.	Subtotal Division - Facility and Process Electrical				\$ 500,000
Division 31 - Earthwork					
1.	Soil Excavated	5000	CY	13	\$ 66,000
2.	Rock Excavated	300	CY	34	\$ 11,000
3.	Back Fill	3670	CY	17	\$ 65,000
4.	Granular Fill	130	CY	34	\$ 5,000
5.	Haul Material	1500	CY	23	\$ 36,000
6.	Dewatering	1	LS	18941	\$ 19,000
7.	Shoring	3000	SF	58	\$ 176,000
8.	Subtotal Division - Earthwork				\$ 378,000
Division 32 - Exterior Improvements					
1.	Fencing - 7 ft Montage	430	LF	158	\$ 68,000
2.	Rolling Gate - 30 ft	1	EA	51446	\$ 52,000
3.	Double Swing Gate - 16ft	1	EA	6431	\$ 7,000
4.	Man Gate	1	EA	1286	\$ 2,000
5.					\$ -
6.	Ball Field Restoration	1	LS	51446	\$ 52,000
7.	Landscaping Allowance	1	LS	19292	\$ 20,000
8.	Walking Trail Allowance	2550	SF	18	\$ 45,000
9.	5 FT Diameter Manholes	3	EA	17538	\$ 53,000
10.	6 FT Diameter Manhole	4	EA	23384	\$ 94,000
11.	Rectangular Precast Flow Meter Vault 8'x8'	1	EA	17538	\$ 18,000
12.	Pavement	900	SY	58	\$ 53,000
13.	Channel Lining - 6" Concrete	600	SF	18	\$ 11,000
14.	Curb and Gutter	295	LF	23	\$ 7,000
15.	Hydrodynamic Separator	1	EA	58461	\$ 59,000
16.	Subtotal Division - Exterior Improvements				\$ 541,000

Pump Station

Project Name: JCW Integrated Plan Refinement
 Project Location: Brush Creek Pump Station Replacement
 eBuilder Project ID: 100000247
 Design Phase: Project Concept
 Estimated by: Wiseman/Hardee/McCann
 Estimate Date: 02-Mar-26

Item	Description	Quantity	Unit of Measure	Installed Unit Rate (2026)	Total Construction Amount
Division 40 - Process (Exposed) Pipe					
1.	Buried Pipe				\$ -
2.	18" Temporary Sewer - HDPE	75	LF	526	\$ 40,000
3.	30" Permanent Sewer	175	LF	526	\$ 93,000
4.	30" Forcemain	50	LF	526	\$ 27,000
5.	Flow Meter Vault				\$ -
6.	30" Plug Valve	2	EA	70153	\$ 141,000
7.	30" x 20" Reducer	2	EA	11692	\$ 24,000
8.	20" Mag Meter	1	EA	23384	\$ 24,000
9.	16" x 30" Tee	2	EA	14031	\$ 29,000
10.	16" Pipe	40	LF	409	\$ 17,000
11.	16" Plug Valve	1	EA	35077	\$ 36,000
12.	Valve Vault and Wet Well				\$ -
13.	16" Discharge Piping	85	LF	409	\$ 35,000
14.	16" Plug Valve	3	EA	35077	\$ 106,000
15.	16" Check Valve	3	EA	29230	\$ 88,000
16.	16" Elbow	3	EA	7015	\$ 22,000
17.	Subtotal Division - Process (Exposed) Pipe				\$ 682,000
Division 42 - Process Heating, Cooling, and Drying Equipment					
1.	Electrical Room				\$ -
2.	HVAC Unit and Ductwork	1	EA	50000	\$ 50,000
3.	Ductwork	1	LS	25000	\$ 25,000
4.	Subtotal Division - Process Heating, Cooling, and Drying Equipment				\$ 75,000
Division 46 - Water and Wastewater Equipment					
1.	Wet Well				\$ -
2.	2.5 MGD 100 HP Pumps	3	EA	130000	\$ 390,000
3.	Installation (10% of Equipment Cost)	1	LS	39000	\$ 39,000
4.	Screening Room				\$ -
5.	Screens	2	EA	280612	\$ 562,000
6.	Washer Compactor	2	EA	116922	\$ 234,000
7.	Sluice	1	EA	70153	\$ 71,000
8.	Gate	4	EA	17538	\$ 71,000
9.	Stop Log	4	EA	7015	\$ 29,000
10.	2000 GAL Bioxide Tank	1	EA	35077	\$ 36,000
11.	Chemical Feed Pump	2	EA	17538	\$ 36,000
12.	Odor Control Carbon Scrubber and Fan	1	EA	128614	\$ 129,000
13.	Subtotal Division - Water and Wastewater Equipment				\$ 1,597,000
Construction Total - Direct Costs					
1.	MOPOs and Site Considerations Markup (10%)	1	LS	490900	\$ 491,000
Construction Subtotal (Rounded)					\$ 5,400,000